

In the claims:

1. (Currently amended) An applicator for delivering a bioactive composition, comprising:

an inkjet dispenser comprising an orifice adapted for high-speed ejection of droplets from the dispenser, the inkjet dispenser further ~~comprising~~ including a main body;

a replaceable fluid reservoir adapted to hold and deliver ~~for holding and delivering~~ the bioactive composition to the orifice for ejection therethrough, the replaceable fluid reservoir at least partially insertable through the body; and

a body orifice spacer adapted to be positioned between the dispenser orifice and a target during ejection of the bioactive composition to the target.

2. (Original) The applicator according to claim 1 wherein the applicator is an inhaler.

3. (Original) The applicator according to claim 2 wherein the applicator is a pulmonary inhaler.

4. (Previously presented) The applicator according to claim 1 wherein the inkjet dispenser is a piezoelectric droplet inkjet dispenser.

5. (Original) The applicator according to claim 1 wherein the spacer is external to the body.

6. (Currently amended) The applicator according to claim 1 wherein the inkjet dispenser is adapted to dispense droplets of the bioactive composition ~~are sized~~ for respiratory inhalation.

7. (Currently amended) The applicator according to claim 1 wherein the inkjet dispenser is adapted to dispense droplets of the bioactive composition ~~are sized~~ for delivery to bronchial airways.

8. (Original) The applicator according to claim 1, further comprising multiple replaceable fluid reservoirs.

9. (Currently amended) The applicator according to claim 8 wherein the reservoirs are adapted to hold and deliver two or more different bioactive compositions.

10. (Previously presented) The applicator according to claim 1 wherein the spacer is a mouthpiece spacer or a nasal spacer and the inkjet dispenser is disposed within the spacer.

11. (Currently amended) The applicator according to claim 10, further comprising a fluid conduit extending between the fluid reservoir and the inkjet dispenser, the fluid conduit adapted to deliver the bioactive composition from the fluid reservoir to the inkjet dispenser, the fluid conduit extending at least partially through the spacer.

12. (Currently amended) The applicator according to claim 1 wherein:
~~said~~ the fluid reservoir comprises a first reservoir and a second reservoir;
~~said~~ the spacer defines an internal pathway;
~~said~~ the inkjet dispenser comprises first and second fluid ejection heads positioned in the internal pathway, each fluid ejection head having a respective orifice adapted to dispense ~~through which droplets of the bioactive composition are dispensed;~~
and

the applicator further comprises a first fluid conduit and a second fluid conduit, the first fluid conduit extending between the first fluid reservoir and the first fluid ejection

head, the second fluid conduit extending between the second fluid reservoir and the second fluid ejection head.

13. (Currently amended) The applicator according to claim 1 wherein the spacer is adapted to change ~~changes~~ a delivery direction.

14. (Previously presented) The applicator according to claim 1 wherein the inkjet dispenser is a thermal droplet inkjet dispenser.

15. (Currently amended) The applicator according to claim 1, further comprising a programmable controller adapted to control ~~for controlling~~ the inkjet dispenser.

16. (Previously presented) The applicator according to claim 15 wherein the programmable controller is a microprocessor operable to dispense a predetermined amount of bioactive composition from the inkjet dispenser.

17. (Original) The applicator according to claim 15 wherein the controller is programmable from a remote computer in communication with the controller.

18. (Original) The applicator according to claim 15 wherein the controller is programmable from a keypad or touch screen mounted on an external surface of the body and in communication with the controller.

19. (Previously presented) An applicator for delivering a bioactive composition comprising:

an inkjet type dispenser comprising plural fluid ejection heads, each ejection head further comprising a dispenser orifice;

multiple containers for holding and delivering the bioactive composition to the orifices, each container operably coupled to each fluid ejection head by an independent conduit; and

a body orifice spacer positioned between the fluid ejection heads and a target during ejection of the bioactive composition to the target.

20. (Original) The applicator according to claim 19 wherein the applicator is an inhaler.

21. (Currently amended) The applicator according to claim 19 wherein the dispenser is a thermal droplet inkjet dispenser.

22. (Currently amended) The applicator according to claim 19 wherein the dispenser is a piezoelectric droplet inkjet dispenser.

23. (Original) The applicator according to claim 19 wherein the spacer is a mouthpiece spacer or a nasal spacer.

24. (Original) The applicator according to claim 19 wherein the spacer is dimensioned for at least partial insertion into a nose or mouth of a human.

25. (Previously presented) The applicator according to claim 19 wherein:
the spacer defines a delivery pathway substantially transverse to the applicator and has an open end for positioning at the target;
the dispenser orifices are disposed in the spacer; and
each dispenser orifice is spaced the same distance from the open end of the spacer.

26. (Original) The applicator according to claim 19, further comprising a programmable controller for controlling the jet dispenser.

27. (Original) The applicator according to claim 26 wherein the programmable controller is a microprocessor.

28. (Currently amended) The applicator of according to claim 26 wherein the controller is programmed to sequentially deliver different bioactive compositions from different containers.

29. (Currently amended) The applicator of according to claim 26 wherein the controller is programmed to simultaneously deliver different bioactive compositions from different containers.

30. (Previously presented) The applicator of claim 26 wherein the controller is programmed to deliver bioactive compositions from the applicator in response to clinical or physical information.

31. (Cancelled).

32. (Previously presented) The applicator according to claim 19 wherein each fluid ejection head is in constant fluid communication with a respective container via a respective conduit such that bioactive composition from each container can flow, under the influence of gravity, to a respective fluid ejection head.

33. (Currently amended) An applicator for delivering a bioactive composition, comprising:

an inkjet dispenser comprising an orifice through which droplets are ejected in an ejection direction at high speed;

a container for holding and delivering the bioactive composition to the orifice for ejection therethrough; and

a delivery device that changes a delivery pathway of the droplets from the

ejection direction to a delivery direction.

34. (Currently amended) The applicator according to claim 33 wherein the container comprises a first container for holding and delivering a first bioactive composition and a second container for holding and delivering a second bioactive composition, and the inkjet dispenser comprises a first orifice for ejecting droplets of the first bioactive composition and a second orifice for ejecting droplets of the second bioactive composition.

35. (Currently amended) The applicator according to claim 34 wherein the inkjet dispenser comprises an a thermal inkjet type dispenser.

36. (Previously presented) The applicator according to claim 33 wherein the delivery device comprises a mouthpiece extending transverse to the ejection direction for delivering droplets of the bioactive composition in a delivery direction that is transverse to the ejection direction.

37. (Currently amended) An applicator for delivering a bioactive composition to a mucous membrane, comprising:

an inkjet dispenser comprising an orifice, the orifice capable of ejecting the bioactive composition therethrough;

a container for holding the bioactive composition and operably coupled to the dispenser;

a processor electrically connected to the jet dispenser and programmed to deliver selected dosages of the bioactive composition; and

an input slot for removable memory electrically connected to the processor.

38. (Original) The applicator according to claim 37, further comprising means for programming the processor.

39. (Currently amended) The applicator according to claim 38 wherein the means for programming is a keypad or a touch screen mounted on a body of the inkjet dispenser.

40. (Original) The applicator according to claim 37, further comprising a display screen electrically connected to the processor.

41. (Original) The applicator according to claim 37 wherein the input slot is an input slot for a flash memory card.

42. (Currently amended) The applicator according to claim 37, further comprising a spacer positioned between the dispenser orifice and the target during ejection of the bioactive composition to the mucous membrane and wherein the jet dispenser comprises ~~an~~ a thermal inkjet dispenser.

43. (Currently amended) A kit for administering a bioactive composition to a subject, comprising:

an applicator, comprising an inkjet dispenser comprising an orifice for high-speed ejection of droplets from the dispenser, a replaceable fluid reservoir for holding and delivering the bioactive composition to the orifice for ejection therethrough, and a separate body orifice spacer capable of being positioned between the dispenser orifice and the subject during ejection of the bioactive composition to the subject; and
a programmable controller operable to actuate the inkjet dispenser.

44. (Currently amended) The kit according to claim 43, wherein the inkjet dispenser comprises first and second orifices for high-speed ejection of droplets from the dispenser, the fluid reservoir comprises a first fluid reservoir and a second fluid reservoir for holding and delivering the bioactive composition to the first and second orifices, respectively.

45. (Original) The kit according to claim 43, wherein the spacer connects to the applicator substantially transverse to the applicator.

46. (Currently amended) The kit according to claim 43 wherein the inkjet dispenser comprises a piezoelectric inkjet dispenser.

47. (Currently amended) The kit according to claim 43 wherein the inkjet dispenser comprises a thermal inkjet dispenser.

48. (Original) The kit according to claim 44 wherein the controller controls the ejection of the bioactive composition in response to information about a physiological condition of the subject.

49. (Previously presented) A method for administering a bioactive composition to a subject, comprising:

providing an inkjet dispenser comprising a plurality of reservoirs of bioactive substances; wherein the reservoirs are cartridges capable of being removed and replaced through an opening in the dispenser;

dispensing one or more of the bioactive substances from the containers through the jet dispenser into a mouth or nose; and

removing one of the reservoirs.

50. (Previously presented) A method for administering a bioactive composition to a subject, comprising:

applying to a body orifice of the subject a body orifice spacer of an applicator, the applicator comprising a main body, an inkjet dispenser, and a dispenser orifice through which droplets of the bioactive composition are ejected, the applicator further comprising a container for holding and delivering the bioactive composition, wherein the spacer extends substantially transverse to the main body; and

dispensing the bioactive composition from the dispenser toward the body orifice.

51. (Original) The method according to claim 50 wherein the body orifice is a mouth or nose of a human subject.

52. (Previously presented) The method according to claim 50 comprising dispensing the bioactive composition from the dispenser toward the body orifice in response to a physiological condition of the subject.

53. (Previously presented) The method according to claim 50 wherein the applicator further comprises a programmable controller for controlling the operation of the inkjet dispenser.

54. (Original) The method according to claim 53 wherein the controller is programmable from a remote computer in communication with the controller.

55. (Original) The method according to claim 54 wherein the controller is programmable from a keypad or a touch screen mounted on an external surface of the main body and in communication with the controller.

56. (Original) The method according to claim 50 wherein the droplets are sized for respiratory inhalation.

57. (Original) The method according to claim 50 wherein the droplets are sized for delivery to bronchial airways.